

Caltrans District 9
Bridgeport, CA
US-395



Caltrans

Oakland, CA
Telegraph Avenue



City of Oakland

Integrating Complete Streets into the Transportation System

Prepared for the May 2017 Transportation Planning Academy
Sacramento, California

By
Smart Mobility and Active Transportation Branch
Office of Smart Mobility and Climate Change
Division of Transportation Planning
Caltrans



Agenda

1. Define “Complete Street”
2. Caltrans’ Complete Streets Policy
3. Why does Caltrans need a Complete Streets Policy?
4. Complete Streets Examples on the State Highway



Baybridgeinfo.org

5. Complete Streets Planning
6. Breakout Activity: Redesign a Roadway

1. What is a Complete Street?



A Complete Street is ...

A transportation facility that:

- Serves the transportation needs users of all ages and abilities.
- Is context sensitive and the approach provides system design considering land development patterns.
- Provides public space for community and economy.

Users are:

- Bicyclists
- Pedestrians
- Mobility impaired
- Transit riders
- Freight handlers
- Motorists



Lancaster, CA- a six-lane street reduced to three with a tree-lined central public space. EPA



Complete Streets is ...

A transformative approach to transportation facility design

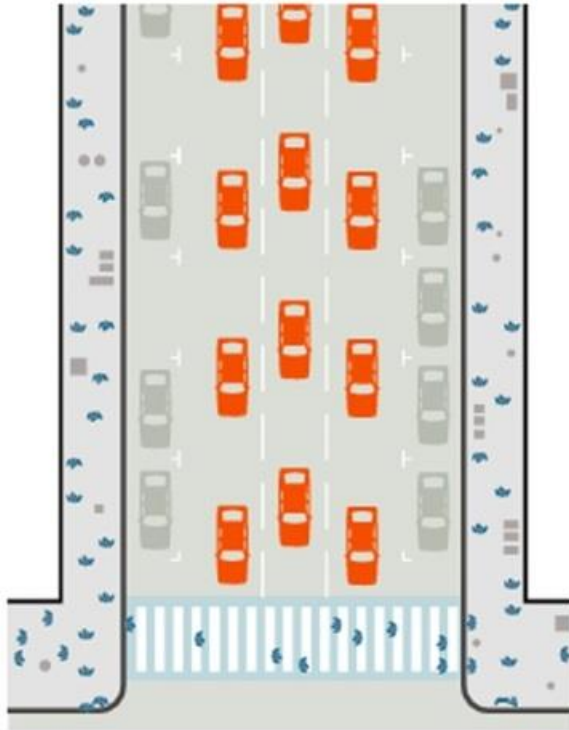
- Shift from focusing on automobile movement to moving people of all modes, including pedestrians, bicyclists, and transit.
- An element of community-building through public space re-allocation.



Curbed Los Angeles

The Complete Streets Approach

Car-Oriented Street

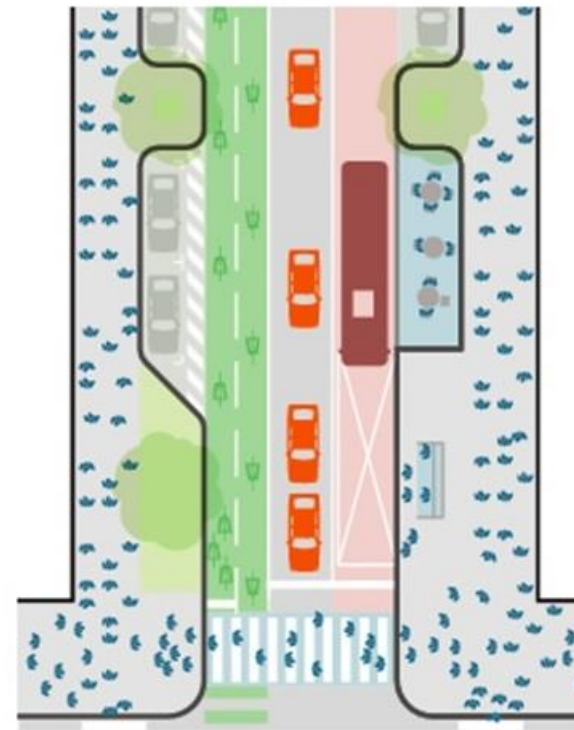


Move
people
not
cars



Total capacity: 12,300 people/h

Multimodal Street



Total capacity: 30,100 people/h²⁹

2. Caltrans' Complete Streets Policy



DD 64-R2 Complete Streets

“Caltrans provides for the needs of travelers of all ages and abilities in all ... activities and products on the State highway system.”

“Caltrans views all improvements as opportunities ... for all travelers
”
....

-Deputy Directive 64-R2

https://onramp.dot.ca.gov/sw_policy/dd/dd_64_r2.pdf



Implementing the CS Policy

Employees *(From Draft DD64-R3)*

- Use **appropriate application of standards and guidance**, to promote innovative designs that **enhance** mobility for all users in all transportation products and activities.
- **Promote awareness** of bicycle, pedestrian, and transit needs to develop an integrated, multimodal transportation system.
- **Maximize bicycle, pedestrian, and transit safety and mobility** through each project's life cycle.

Draft revisions not final



3. Why does Caltrans need a Complete Streets Policy?



CyclingSavy.org



Caltrans Strategic Management Plan

Mission:

Provide a **safe, sustainable, integrated** and **efficient** transportation system to enhance California's **economy and livability**.

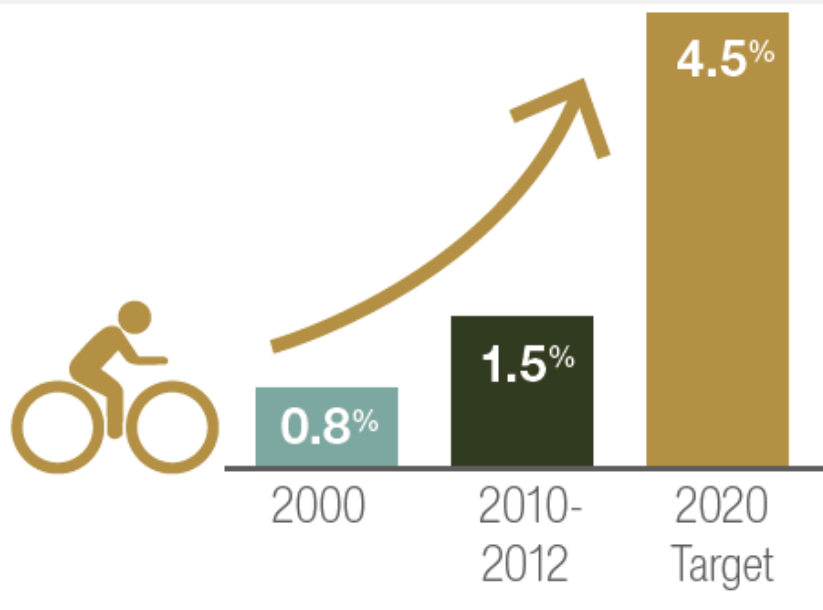
Goals:

- **Safety and Health**
 - 10% reduction in fatalities for drivers, transit users, pedestrians and cyclists.
- **Sustainability, Livability and Economy**
 - Triple bicycle trips, double pedestrian trips, double transit trips.
- **System Performance**
 - Increase Complete Streets features on State highways.

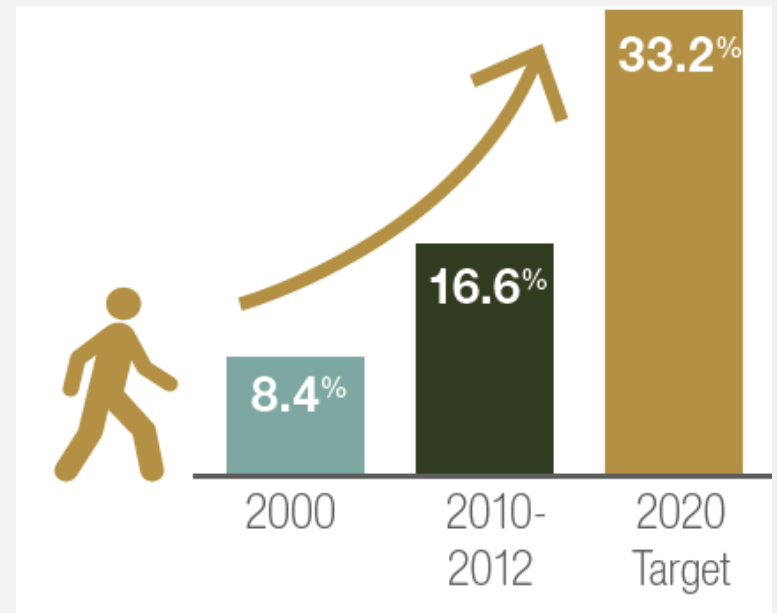


Active Transportation Trip Goals

2020 Target: Triple Bike Trips



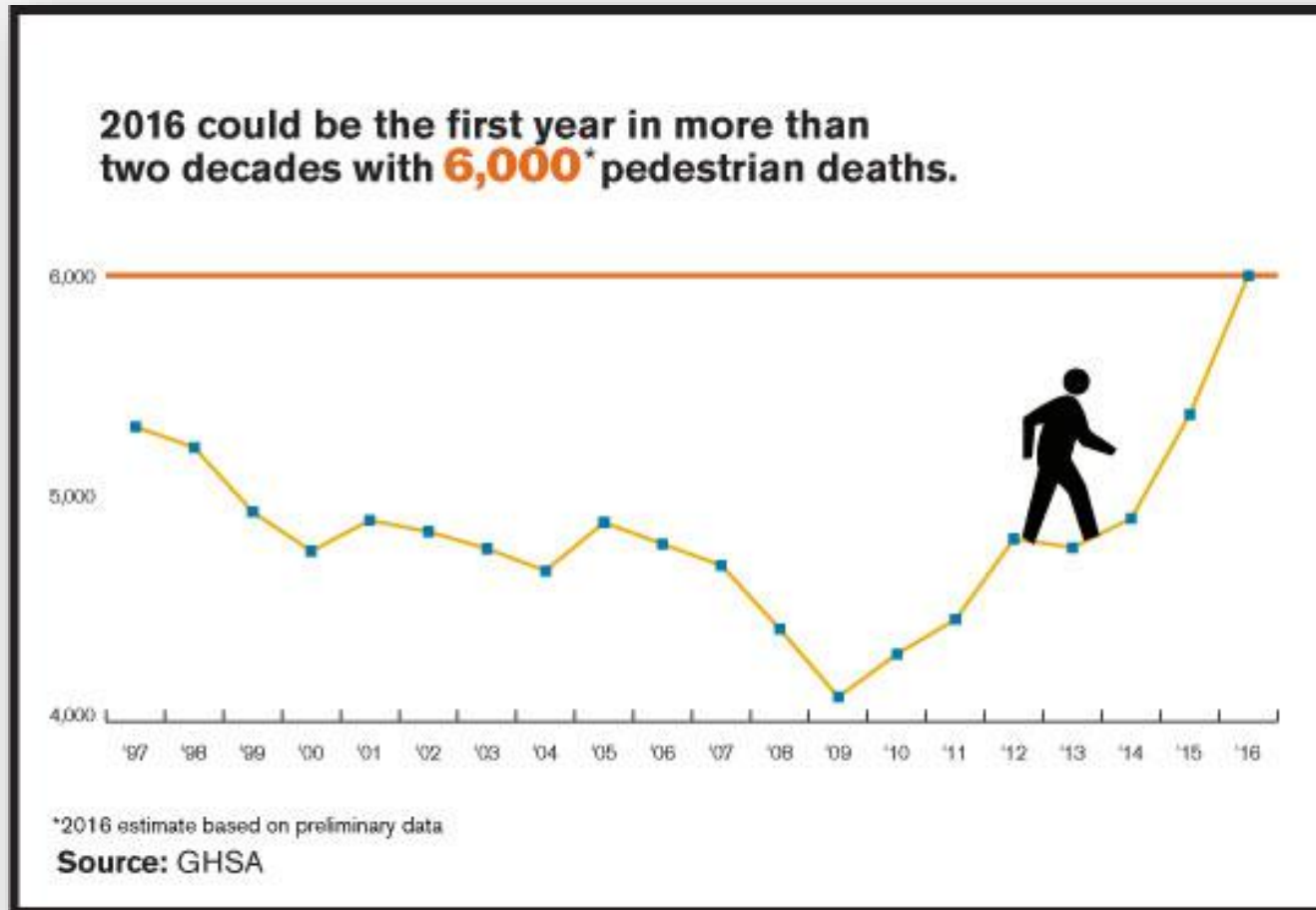
2020 Target: Double Walking Trips



Baseline Source: California Household Travel Survey (2012)

Safety and Health Goal

- Bicyclist and Pedestrian fatalities are increasing nationwide.
- People utilizing active transportation are considered vulnerable road users.



Spending vs. Equitable Distribution

STIP SCORE CARD

- » Advocacy Advance counted, coded, and calculated planned bicycle & pedestrian projects listed in the Statewide Transportation Improvement Program (STIP).
- » Data Source: A "MTC 2011 FTIP" and "2013 FTIP Report" generated by Caltrans staff on February 19, 2013.

» PROJECTS BY COST



0.03% of the total cost are from BICYCLE-ONLY projects



0.02% of the total cost are from PEDESTRIAN-ONLY projects



0.14% of the total cost are from SHARED-USE projects



2.3%

PERCENT COST OF ALL PROJECTS
WITH BICYCLE & PEDESTRIAN FACILITIES
(INCLUDING ROAD PROJECTS)



97.7%



PERCENT COST OF ALL PROJECTS
WITHOUT ANY BICYCLE & PEDESTRIAN FACILITIES*



Image from Streets.MN

Relative social cost for a 10-mile trip:

- Automobile: \$ 1.20
- Bicycle: \$ 0.05
- Pedestrian: \$ 0.02

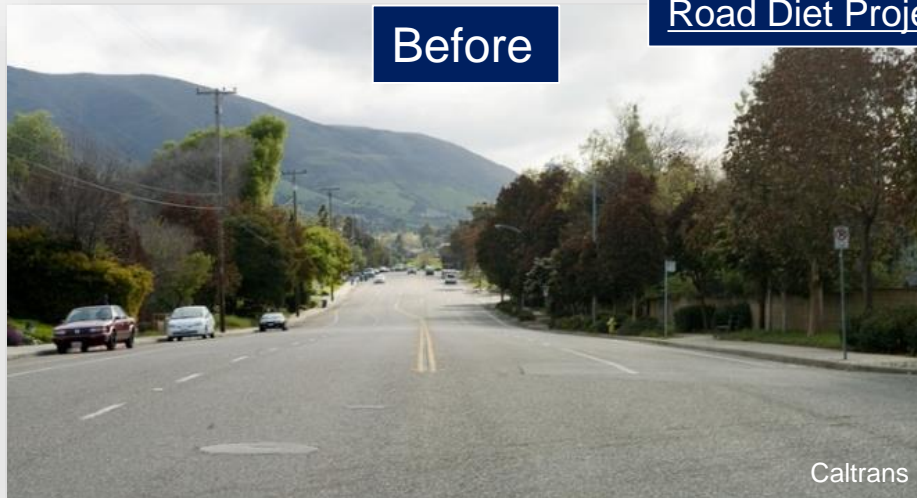
<https://www.strongtowns.org/journal/2016/11/3/pay-your-fair-share>



4. Complete Streets Examples on the State Highway

Caltrans District 5
San Luis Obispo, CA
South Street (formerly SR-227)
Road Diet Project

Before



After



Example #1: Gateway Transportation Enhancement Project

Caltrans District 1

Arcata, California

Samoa Boulevard-State Route 255

Before



Example #1: Gateway Transportation Enhancement Project

Caltrans District 1

Arcata, California

Samoa Boulevard-State Route 255

After



Complete Streets Elements
Added:

1. Enhanced Crosswalk Visibility
2. Raised Curb Median
3. Median Refuge Area
4. Class II Bike Lanes



Example #2: Kings Beach Commercial Core Project

Caltrans District 3
Kings Beach, California
Lake Boulevard-State Route 28

Before



Example #2: Kings Beach Commercial Core Project

Caltrans District 3
Kings Beach, California
Lake Boulevard-State Route 28

After



Complete Streets Elements
Added:

1. Roundabouts
2. Median Refuge Area
3. Enhanced Crosswalk Visibility
4. Class II Bike Lanes (not pictured)



Example #3: Green Bike Lane at Freeway On- and Off- Ramps

Caltrans District 4
San Mateo County, California
Alpine Road at Interstate 280

Before



Google Maps Image

During Construction



Silicon Valley Bicycle Coalition



Example #3: Green Bike Lane at Freeway On- and Off-Ramps

Caltrans District 4
San Mateo County, California
Alpine Road at Interstate 280

After



Complete Streets Elements Added:

1. Class II Buffered Bike Lanes
2. Green Paint in Conflict Areas

Complete Streets Elements

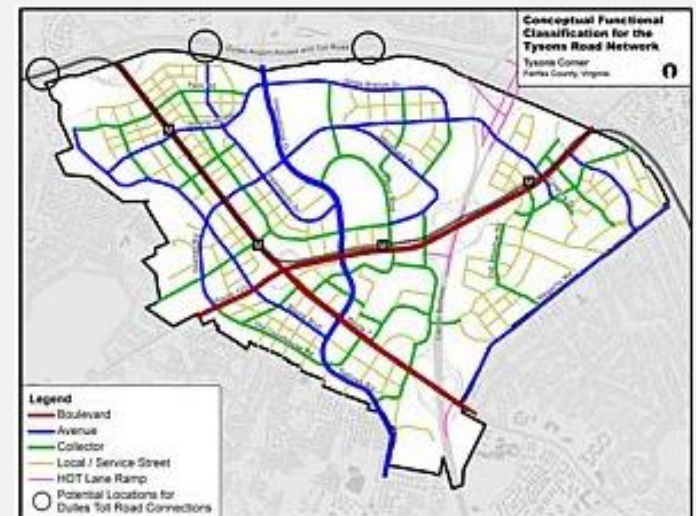
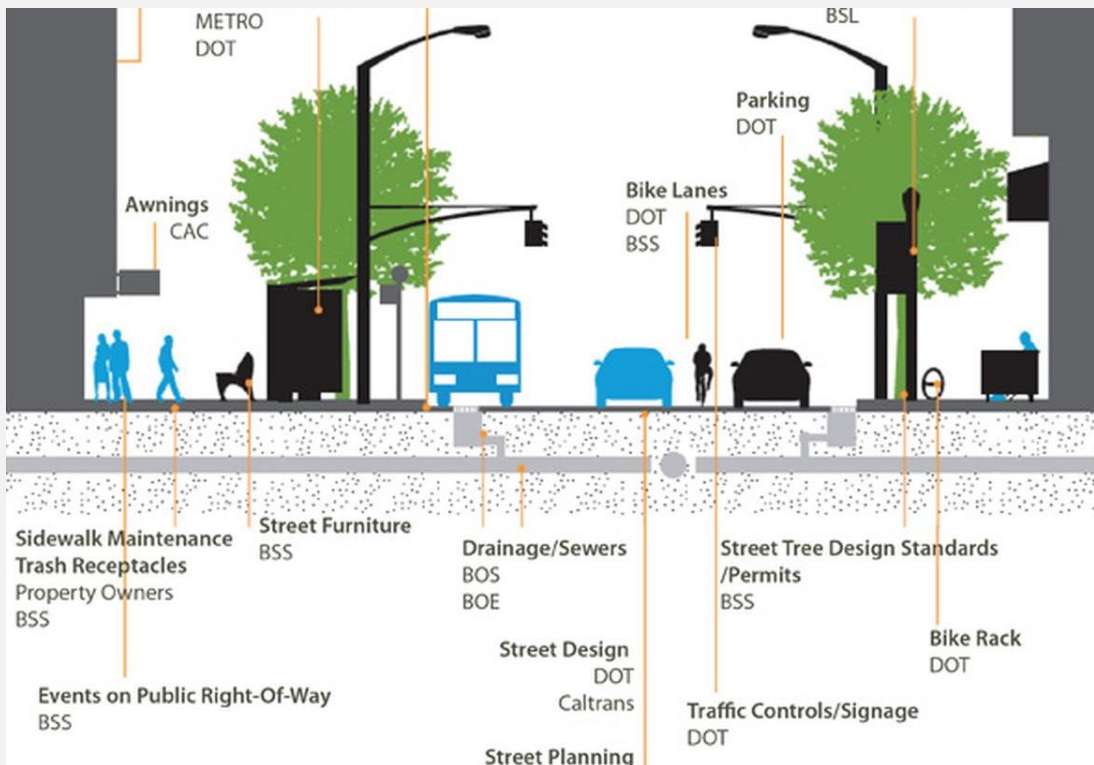
Complete Streets include a variety of features to achieve objectives.

Common Elements include:

- Roadway Reconfigurations
- Bikeways: Bike Lanes, Bike Routes, Separated Bikeways, Green paint in conflict areas.
- Pedestrian features: ADA-compliance, sidewalks, enhanced visibility crosswalks, curb bulb-outs, crossing islands, flashing beacons.
- Transit features: transit stops, bus pullouts, bus bulbs, shoulder-managed lanes.
- Roundabouts
- Medians: Mid-block crossings



5. Complete Streets Planning



Complete Streets Planning

Performance Measurement

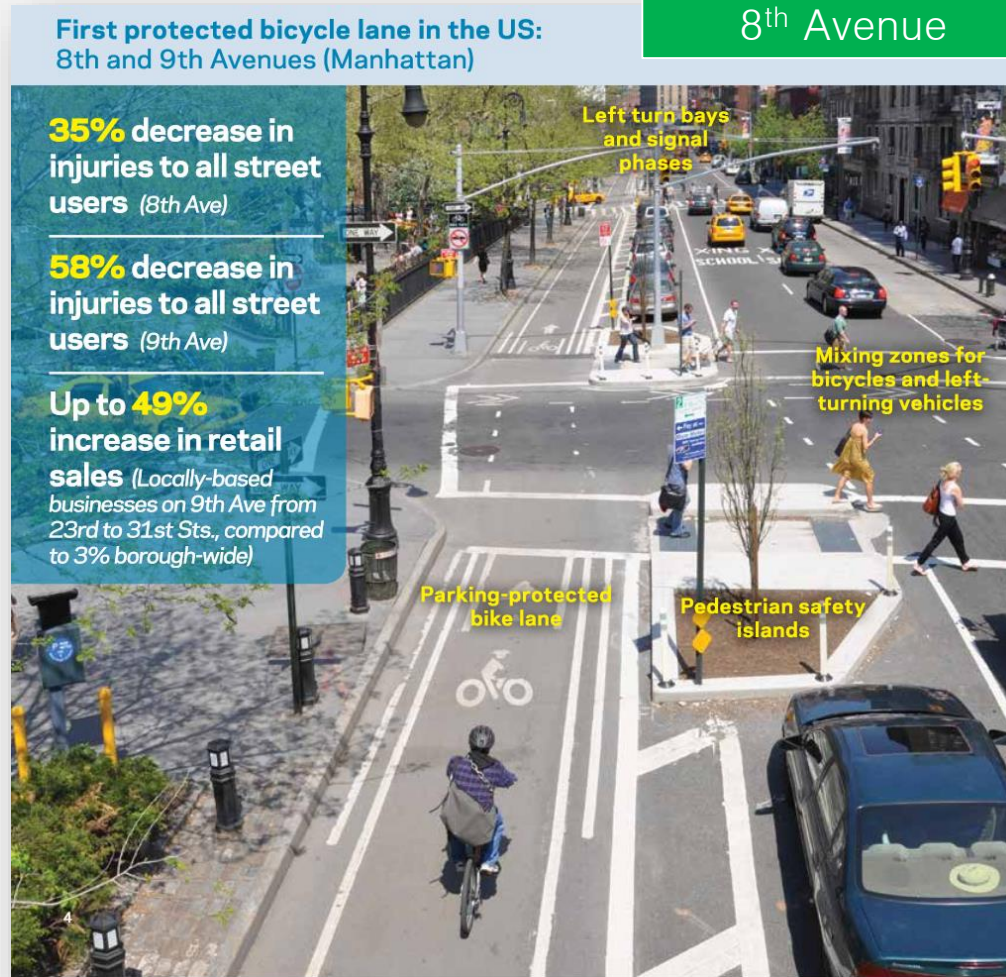
Traditional:

- Automobile Throughput
- Automobile Level of Service
- Crash Rates

Complete Streets:

- Multi-modal Throughput
- Bicycle/Pedestrian Level of Traffic Stress
- Traffic Speed Suitability
- Economic Vitality
- Environmental and Public Health
- Place-making

New York City, NY
8th Avenue

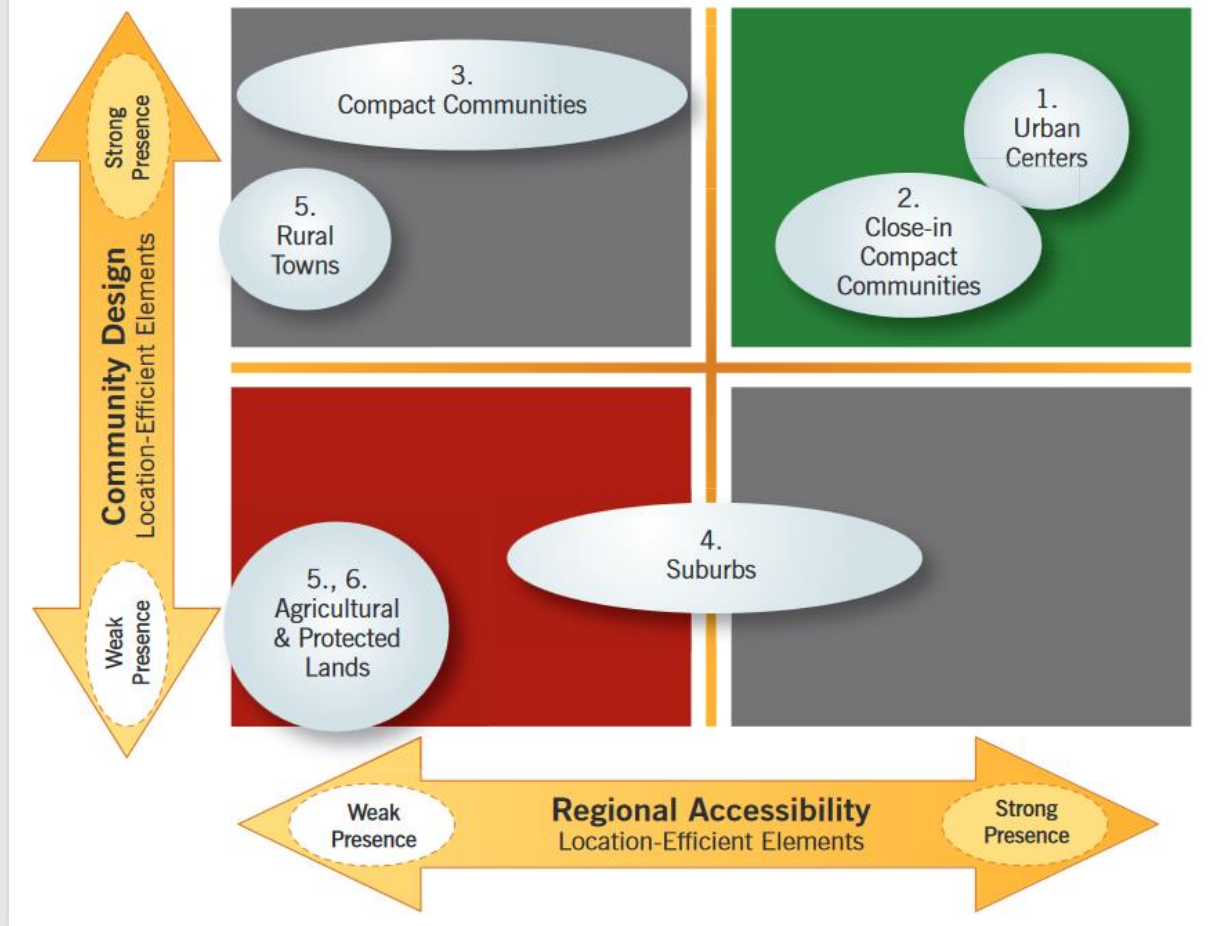


Complete Streets Planning

Smart Mobility Place Types:

- A concept from Caltrans' Smart Mobility Framework
- Complete Streets are planned based on **land-use context**.

Exhibit 8: Smart Mobility Place Types and Location Efficiency Potential



Complete Streets Planning

Consider Context

Bicycle-Accessible Rural Freeway



Urban Conventional Highway *(in a residential area)*



Complete Streets Planning

Consider Context

Bicycle-Accessible Rural Freeway

Caltrans District 1
US-101
Eureka, CA

Bicycle warning signage

Colored bicycle-accessible shoulders

Caltrans

Urban Conventional Highway (in a residential area)

Caltrans District
Sloat Boulevard (SR-35)
San Francisco, CA

High Intensity Activated Crosswalk (HAWK)

Median Crossing Island

Enhanced Crosswalk Visibility

Class II Buffered Bike Lane
Lane Reduction (Road Diet)

Curb Bulbout

Caltrans

Complete Streets Planning *Needs Identification*

Partnerships with local agencies:

- Relationship-building with local agency staff
- Assessing/Anticipating needs
- Customer Service
- Community-oriented

Caltrans Booth at
Open Streets RC



From Left: James Camarillo, ATP, D8; Cuong Trinh, ATP, D4; Dustin Foster, ATP, DOTP HQ



"Planning doesn't happen in the 'cube'"

Complete Streets Planning

Needs Identification

Local Plans:

- Local planning documents hold the key to assessing **identified** needs by local agencies.
- Plans can include:
 - General Plan Circulation Element
 - Specific Plans
 - Bicycle and Pedestrian Plans
 - Complete Streets Plans
 - Safe Routes to School Plans
 - Short-range Transit Plans
 - Long-range Transit Plans
- *Local Plan oversight opportunities*



Complete Streets Planning

Needs Identification

Bicycle and Pedestrian Collision Data

- The frequency and severity of bicycle and pedestrian collisions within project limits could provide justification for complete streets elements in projects.
- Use engineering judgement when analyzing these collision data inputs.
- Data can be analyzed using Caltrans' TASAS



Complete Streets Planning

Needs Identification

Field Review:

- Walk/ Bike Audit: an evaluation of the walking/biking environment to identify opportunities for increasing safety, access, comfort and convenience for active transportation.
- Resources:
 - Pedbikeinfo.org
 - SCAG Go Human Campaign

Caltrans District 8

Ontario, CA

Euclid Avenue (SR-83)

District 8's Historic Euclid Avenue Walking Tour



The basic process of conducting a walk or bike audit takes a number of steps:

Choose the
areas/locations
for the audit



Choose the
type of data
to collect and the
method



Choose when
the audit will take
place and who will
do it



Choose how
to record and
present the data
collected

SCAG GO Human
Campaign

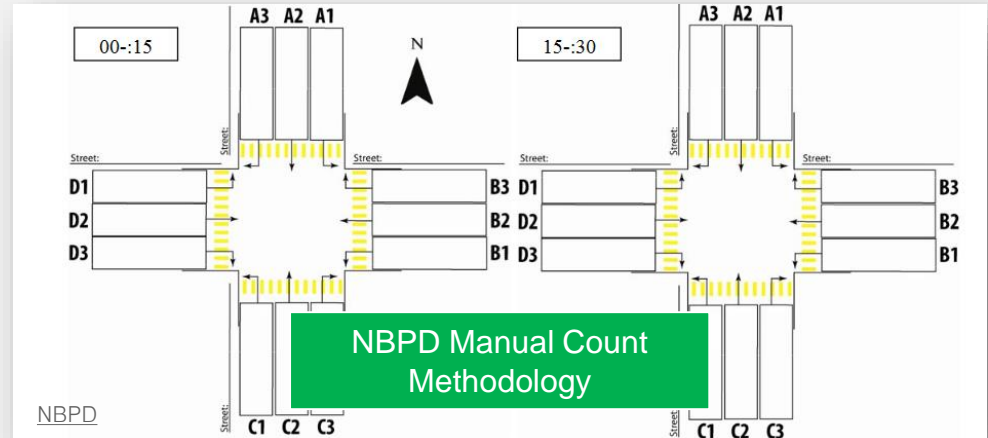


Complete Streets Planning

Needs Identification

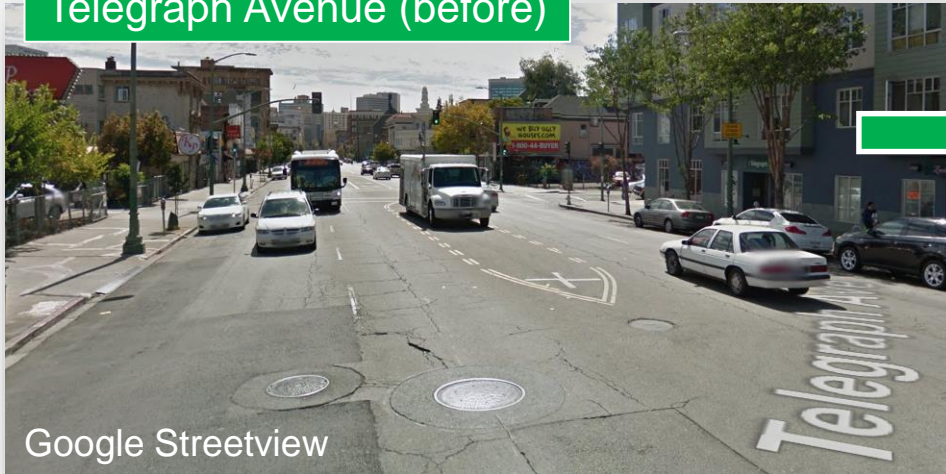
Multi-modal Trip Count Data:

- The collection of bicycle and pedestrian trip data within project limits could provide justification for complete streets elements in projects.
- Transit trip data on daily boardings can be provided by local transit agencies
- Data can be analyzed using:
 - Census Mode Share (Journey to Work) Data
 - Manual Multi-modal Trip Count (pictured above right)
 - Portable Counters (pictured below right)

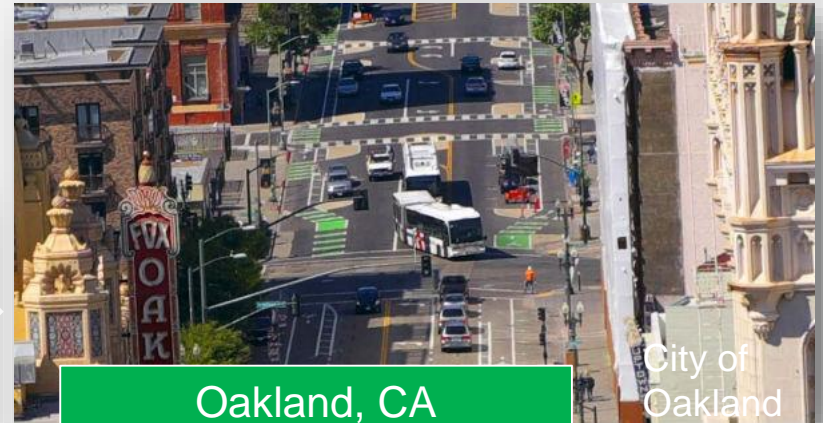


Complete Streets Planning *Needs Identification*

Oakland, CA
Telegraph Avenue (before)



Google Streetview



Oakland, CA
Telegraph Avenue (after)

City of
Oakland



Bike East Bay

Complete Streets Planning

Needs Identification

- A Complete Streets education tool and guidance document.
- A 'living document' regularly maintained to reflect Caltrans' direction and updates to Design, Operations, and SHOPP guidance.
- Includes:
 - Complete Streets Planning Concepts
 - Complete Streets Elements Definitions
 - Guidance
 - District and Local Examples
 - Quantification



Access at:

www.dot.ca.gov/transplanning/ocp/complete-streets.html

Complete Streets Planning *Tools and Guidance*

NACTO Urban Street Design Guide

- A visionary document providing “the toolbox and tactics to make streets safer, more livable, and more economically vibrant”.
- Provides information on:
 - Street Design Typologies
 - Street Design Elements
 - Interim Design Strategies
 - Intersection Design



Can be found at:

<https://nacto.org/publication/urban-street-design-guide/>



Complete Streets Planning *Tools and Guidance*

NACTO Urban Street Design Guide Street Design Typologies

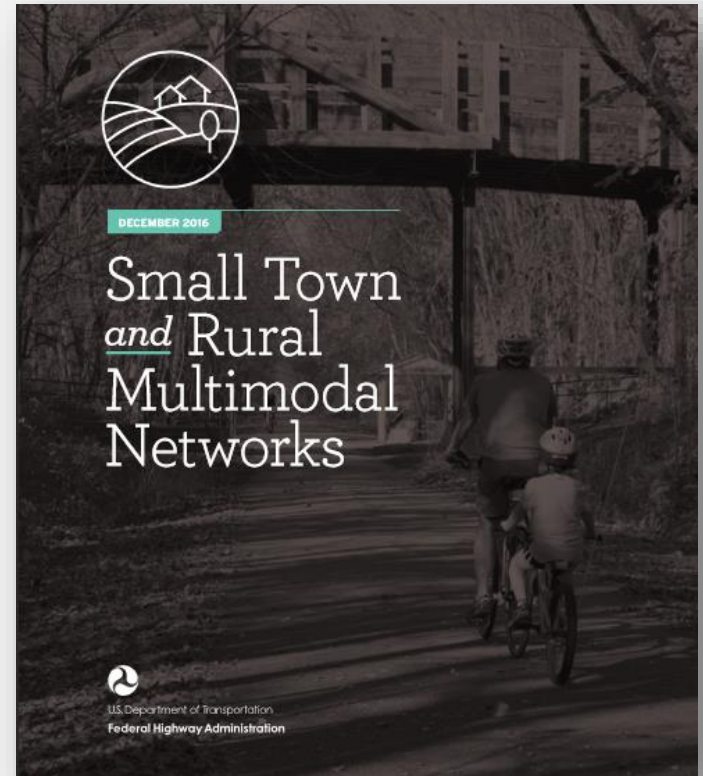
Downtown 1-Way Street



Complete Streets Planning *Tools and Guidance*

FHWA Small Town and Rural Multimodal Networks

- A guidance document that provides bicycle and pedestrian design and guidance in a rural planning setting.
- Provides information on Street Design Elements based on:
 - Speed and Volume
 - Facility Type
 - Place Type



https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/small_towns/fhwahep17024_lg.pdf



Complete Streets Planning

District-Level Complete Street Plans



Connected and Comfortable Networks (M1)

Develop local and regional networks of high-quality bicycle and pedestrian facilities for all ages and abilities

- M1.1: **Develop District-level plans** to identify bicycle and pedestrian needs and priority projects on or parallel to the state highway system...
- M1.2: Explore opportunities to develop a network of separated 'bicycle highways' to serve regional and interregional travel.
- M1.5: Consider bicycle and pedestrian comfort when designing new or improved facilities...



Complete Streets Planning

District-Level Complete Street Plans

- Headquarter to assist with development of Complete Streets Plans for each District.
- Each District has submitted a scope of work that will be incorporated into the statewide contract.
- Each District will be able to customize a plan that fits their specific needs.
- **Goal: to identify and develop Complete Streets project lists on the State Highway System.**



Complete Streets Contacts

HQ Smart Mobility Branch

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Dustin Foster, ATP
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Jessica Downing, TP
916-653-2593

Technical Assistance

District Design Liaisons

www.dot.ca.gov/design/liaison.html

District Bike & Ped Coordinators

<http://www.dot.ca.gov/hq/LocalPrograms/bike/contacts.html>

District Traffic Safety Bike & Ped Engineers

<http://www.dot.ca.gov/trafficops/ped/engineer.html>

Complete Streets Website

www.dot.ca.gov/transplanning/ocp/complete-streets.html



Complete Streets Planning

Redesign a Roadway

